

Remarks

This Amendment is being filed in response to the Office Action mailed January 29, 2004. Claims 1-50 are pending in the present application. Claims 22-45, 49 and 50 were withdrawn in a previously filed paper. Claims 1, 5, 7, 15, 16 and 46-48 have been amended. Claim 12 has been cancelled without prejudice.

The Examiner has rejected applicant's claims 1-21 and 46-48 under 35 U.S.C. § 112, first paragraph because the specification, while being enabling for evaluating a probe of a partial base sequence by the entropy calculation (page 18) for the measurement of specificity of a partial base sequence by a node of the discrimination tree and evaluation of said entropy by the evaluation functions (pages 19-21), does not reasonably provide enablement for all forms of evaluating and all functions for evaluation of a partial base sequence represented by a desired node as encompassed by the claims.

Particularly, with respect to claim 1, the Examiner has found some support for "the evaluation step of evaluating the suitability as a probe of a partial base sequence represented by a desired node" in the portion of applicant's specification that describes the Probe Evaluation Method (Application pgs. 16-21; Step S104, FIG. 1), which indicates evaluation of a node as a probe based upon measurement of specificity (entropy) of a partial base sequence specified by a node of the discrimination tree for evaluation, and which indicates using the specificity (entropy) calculated to derive the evaluation scores by specific evaluation functions (pages 19-21, Equations 2 and 3). However, the Examiner has stated that the specification does not provide further guidance, examples or direction on how to perform other steps/methods of "evaluating a probe of a partial base sequence represented by a desired

node,” and that it would require undue experimentation to evaluate the “suitability as a probe of a partial base sequence represented by a desired node.”

Applicant respectfully disagrees. The arrangement of claim 1, as amended, is adequately disclosed by applicant's specification. The embodiments described in the specification teach: a generation step (steps S101 to S103, FIG. 1) of generating a tree (FIGS. 6A and 6B) in which a plurality of partial base sequences obtained on the basis of a target base sequence (FIG. 5) are arranged on nodes; an extraction step (step S104, FIG. 1) of extracting a partial base sequence indicated by nodes present on a path from one of the nodes to a root node on the tree (the node 601 of FIG. 6A indicates a partial base sequence “CAG”); an evaluation step (step S104 of FIG. 1; application page 16 line 12 - page 21 line 2) of evaluating the extracted partial base sequence based on a predetermined evaluation criteria, and obtaining an evaluation result thereof; and a determination step (step S105, FIG. 1) of determining a partial base sequence to be used as a probe on the basis of the evaluation result in the evaluation step.

Specifically, as to the evaluation step, partial base sequences can be narrowed down by, for example, giving some margin to the number of base sequences (hybridization intensities) (page 17, lines 1-3), determining melting temperature of the base sequences (page 17, lines 17-23), and/or measuring specificities (page 18, lines 9-13). These evaluation techniques are discussed in applicant's specification and applicant's submit that it would be well within the purview of the skilled artisan to apply these techniques without undue experimentation in the practice of applicant's claimed invention.

Accordingly, applicant submits that applicant's claims, as amended, are supported by an enabling disclosure and thus satisfy the requirements of 35 USC § 112, first paragraph.

The Examiner has also rejected applicant's claims 1-21 and 46-48 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended independent claim 1 and claims 5, 7, 15, 16 and 47-48 to more particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to such claims, and their respective dependent claims, applicant respectfully submits that each of the Examiner's rejections under 35 U.S.C. § 112, second paragraph, have been overcome.

Particularly, claim 1 has been amended to more clearly and positively recite the basic steps of the claimed method. Claim 1 has been further amended to remove the term "suitability." Claims 1 and 5 have been amended to remove the terms "desired node." Claims 5 and 7 more specifically recite the limitation "at the center of a partial base sequence." Claim 5 has been further amended to eliminate "adequate as a probe." Claim 7 has been further amended to replace "attaches importance" with "gives a larger weight." Claim 15 has been amended to clarify that the partial base sequences react to the same base sequence patterns. Claim 16 has been amended to clarify that the base sequence order of partial base sequences represented by node connections is identified with the base sequence order in the target. Claims 46-48 have been amended for consistency with claim 1, from which they depend. Finally, the cancellation of claim 12 renders the Examiner's rejection thereto as moot.

Accordingly, the subject matter of applicant's claims 1-21 and 46-48 is sufficiently disclosed in applicant's specification so as to enable one skilled in the art to make or use the invention. It is therefore submitted that applicant's claims 1-21 and 46-48 are in compliance

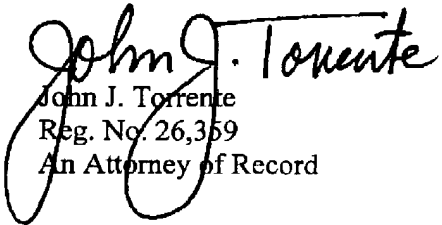
with the provisions of 35 U.S.C. § 112, first paragraph. Moreover, applicant's claims 1-21 and 46-48 have been amended for clarification and are now in compliance with the provisions of 35 U.S.C. § 112, second paragraph.

In view of the above, it is submitted that applicant's claims are in condition for allowance. Accordingly, reconsideration of the claims is respectfully requested.

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Respectfully submitted,

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